University of Gdańsk

Subject card

Subject name and code	Neurophysiology, PG_00048429		
Field of study	Neurofizjologia (Wykład)		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2025/2026
Education level	Bachelor's studies	Subject group	Optional subject group Subject group related to scientific research in the field of study
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	5	ECTS credits	1.0
Learning profile	academic	Assessment form	credit
Conducting unit			
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Jolanta Orzeł-Gryglewska	
	Teachers	dr hab. Jolanta Orzeł-Gryglewska	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	0.0	0.0	15

E-learning hours included: 0.0

Learning activity and number of study hours

Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
Number of study hours	15	0.0	0.0	15

Subject objectives

Demonstration of the paramount role of the nervous system in controlling human vital functions.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLL3_W03] the graduate knows the structure and understands to an advanced degree the functional relationships at cellular, tissue, organ and organismal level	the student knows the structure of the nervous system and understands the functional relationships between its components	[SW4] test/egzamin - ustny lub pisemny
[BIOLL3_W04] the graduate knows and understands the course of physiological processes and their relation to adaptation of the organism to changing environmental conditions	the student knows and understands neurophysiological processes and their relationship with the body's adaptation to a changing environment	[SW4] test/egzamin - ustny lub pisemny
[BIOLL3_U12] the graduate is able to use Polish and foreign language specific to biology in a way that is understandable and accessible to both specialists and non-specialists	the student is able to use Polish and foreign language specialized in neurophysiology in a way that is understandable and accessible to both specialists and non-specialists	[SU1] wypowiedź ustna/rozmowa/ dyskusja [SU4] test/egzamin - ustny lub pisemny
[BIOLL3_W10] the graduate is familiar with the development and current state of knowledge and the latest trends in biology, as well as their relationship with other natural disciplines	the student knows the development and current state of neurophysiological knowledge, as well as their relationship with other natural sciences	[SW4] test/egzamin - ustny lub pisemny
[BIOLL3_W14] the graduate knows the theoretical basis of experimental methods and the most important techniques of the biological sciences	the student knows the theoretical basis of experimental methods and the most important neurophysiological techniques	[SW4] test/egzamin - ustny lub pisemny

<table>
<tr><td>Subject contents</td><td>Physiology of the central and peripheral nervous system. Peripheral nerves and their function. Levels of postural mechanism integration. The involvement of the spinal cord and individual brain structures in behavioral responses. The limbic system and reticular formation. The extrapyramidal system. Function of the cerebral cortex with basics of electroencephalography, mechanisms of sleep and wakefulness. Localization of functions in the cerebral cortex.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>basic knowledge of human and animal anatomy and physiology

Before taking the exam, it is necessary to pass the exercises in this subject.</td></tr>
<tr><td>Assessment methods and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>final test</td><td>51.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td>Recommended reading</td><td><table><tr><td>Basic literature</td><td>Lewandowska D., Orzeł-Gryglewska J., Jurkowlaniec E. 2019. Fizjologia zwierząt i człowieka. Wydawnictwo Uniwersytetu Gdańskiego.
Felten D.L. i wsp. 2003. Atlas neuroanatomii i neurofizjologii Nettera. Elsevier Urban & Partner, Wrocław.
Ganong W.F., 2007. Fizjologia. Wydawnictwo Lekarskie PZWL, Warszawa
Narkiewicz O., Moryś J. Neuroanatomia czynnościowa i kliniczna. Wydawnictwo Naukowe PZWL, Warszawa.</td></tr><tr><td>Supplementary literature</td><td>Sadowski B. 2005. Biologiczne mechanizmy zachowania się ludzi i zwierząt. PWN, Warszawa.
Brodal Per 2004. The central nervous system. Structure and function. Oxford University Press.
Longstaff A. 2002. Neurobiologia. Wydawnictwo Naukowe PWN, Warszawa.</td></tr><tr><td>eResources addresses</td><td></td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>Pathways and centers of the spinal cord

Structural-functional unit of the cerebellum, symptoms of cerebellar damage

Centers of the extrapyramidal system

Location of speech centers in the cerebral cortex</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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